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ANNEX A

ADP EQUIPMENT

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ADP EQUIPMENT

I. INTRODUCTION

25X1 1.1 [ ] This annex provides a broad overview of Intelligence Community ADP and related telecommunications resources. Because of the large numbers, much of the data is presented in tabular form, which summarizes the more detailed description of equipment presented in Annex F.

25X1 1.2. [ ] In the most all-encompassing terms, ADP resources for the Community include more than 500 computers. Since FY 70, the investment in hardware and associated software has amounted to [ ] 25X1A These computers and their peripherals are combined into a very large number of ADP systems having one or more specific functions such as assisting in the production of finished intelligence or the processing of raw data. A few major systems are listed by function and agency in Table A.1, by way of example, and are further described in Tables A.2 and A.3.

25X1 1.3 [ ] The functional groupings into which IC ADP resources have been categorized, are described as follows:

- Processing - The conversation of raw intercept data to narrative or graphic form so that it may be analyzed, reported and integrated with information from other sources.

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- o Production - The process of putting together multi-source information to produce a more complete intelligence picture. This includes the immediate reporting of time sensitive data (SIGINT and PHOTINT).
- o Administrative Management - Resources devoted to planning, personnel, security, logistics, and financial management functions.
- o Communications - Switching, terminal concentration, interfacing and those resources required to transport raw data to the appropriate process and forward intelligence to the intended recipient(s).
- o Collection Management - Prioritizing collection requirements and development of collection tasking, and support of organizational management role.
- o Software Development - Resources devoted to the development and de-bugging of computer programs.

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☐ In the DOD, which accounts for about 85% of the computers, reported herein, nearly half are used for processing, where systems and applications are necessarily tailored to specific collection outputs and are largely self-contained within the operating agency. Systems interfaces are

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vertical, allowing the flow of machine processable data direct from the collector systems to those that perform filtering, demultiplexing, or translation operations, and onward to systems that distribute reports in narrative format. In general, interfacing with other organizations takes place only at the reporting end of that stream.

25X1 1.5 ☐ Also in DOD, approximately thirteen percent of the computers are used for production. Unlike the processing function, production requires a great degree of file and other information exchange between organizations. This exchange is effected in a number of ways:

- Through networks such as the Community On-Line Intelligence Network System (COINS) and the Intelligence Data Handling System Communications (IDHSC), providing terminal-to-computer and computer-to-computer connectivity.
- Through remote terminals connected to on-line systems such as the Air Force Foreign Technology Division's Central Information Reference and Control (CIRC).
- Through AUTODIN, a common user communications network.

Thirteen percent of the computers are used for communications supporting production and the other functions--to

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interface terminals with on-line systems, to interface computers with communications networks and for message or packet switching.

- 25X1 1.6 ☐ Although communication networks used by the IC Systems were not assessed during this survey, a general description of communication networks are summarized at Tab 1 in this annex.

## II. ASSETS

- 25X1 2.1 ☐ The total number of IC computers is broken out by agency and ADP function (as defined above) in Table A.4. These data were compiled from the detailed tabs given by agency in Annex F. It is shown that the Department of Defense (85%) and CIA (13%) hold nearly all of the Community ADP assets. The breakdown of computers within DOD by agency and function is given in Table A.5, where as might be expected, a large fraction of the resources is devoted to intelligence processing by NSA. Additionally, these 500-odd computers are connected to more than 4,600 terminals that serve Community agencies.

- 25X1 2.2 ☐ The location of IC computers is principally in CONUS (92% of the total), with the preponderance in the Washington, D.C. area (which includes CIA-Langley and NSA-Fort Meade), as shown in Table A.6.

- 25X1 2.3 ☐ An indication of the size of some of the computer installations is given by an analysis of CIA data

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TABLE A.4  
COMPUTERS BY AGENCY AND FUNCTION

	<u>DOD*</u>	<u>CIA</u>	<u>OTHERS</u>
R&D	29	2	--
COLLECTION MANAGEMENT	26	16	--
PROCESSING	216	17	--
PRODUCTION	60	20	5
COMMUNICATIONS**	59	1	--
ADMINISTRAT. MANAGEMENT	28	14	--
SOFTWARE DEVELOPMENT	24	--	--
TOTALS	442	70	5
GRAND TOTAL		<u>517</u>	

\*GDIP and CCP only; Excludes SPAF and SPN  
\*\*Includes Terminal Controllers.

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Table A-5  
DOD BREAKDOWN OF COMPUTERS BY FUNCTION

	Army	Navy	AF	NSA	DIA	Total
R&D	1	--	--	26	2	29
Collection Management	1	--	5	20	--	26
Processing	5	19	41	149	2	216
Production	13	11	22	1	13	60
Communications	1	10	15	14	19	59
Admin. Management	5	1	5	14	3	28
Software Development	1	--	2	21	--	24
Totals	27	41	90	245	39	442



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TABLE A.6  
IC COMPUTERS BY LOCATION

Washington, D.C.	378
Other CONUS, plus Alaska	97
Atlantic (W. Europe and S. America)	25
E. Europe & USSR & Africa & W. Asia	5
Pacific (E. & S.E. Asia)	<u>12</u>
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which shows that 14% of their total are "large" installations, costing in excess of \$2M; 81% are "small" installations costing less than \$150K (most of which are minicomputers), with the remaining 5% lying between these cost ranges. More than half of the DOD computers are minis and 1/3 of these are DEC PDP II-XX Series. | 11

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☐ An indication of the equipment spread by manufacturer and model throughout the Intelligence Community is given in Tab 2 attached. The appearance of dozens of manufacturers and a multitude of equipment models derives from the wide technical diversity of applications; differing procurement practices between agencies; conformance with the spirit and intent of the Brooks Bill; the rapid obsolescence/introduction of new machinery in the highly competitive, high technology computer field; and the length of time, spanning a period of more than 10 years, over which these assets were acquired.

### III. COSTS

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☐ A precise estimate of the total investment in IC ADP equipment and associated software is being developed and is not available at this time. But the total lies in the billions of dollars, accumulated over the past two decades, and primarily in the past 10 years, reflecting the following factors:

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- o The fundamental role of ADP in coping with requirements in the near real-time intelligence collection environment
- o The increasingly essential role of ADP in providing more effective means of processing critically needed information to support indications and warning
- o The increased complexity of systems needed to address modern technological analysis and exploitation problems, such as in NSA signals processing
- o The need to compensate for Congressionally mandated manpower ceilings by automating tasks previously performed by human resources.

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☐ Historical trends in IC ADP systems support costs are shown in current dollars in Table A.7 by agency for period FY 70 through 78. These data are identified as "ADP-related," but do not fully include all ADP-associated items. Ignoring inflation, ADP costs have nearly doubled from about \$150M per year in FY 70 to almost \$300M per year in FY 78, and climbed from

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25X1 3.3

☐ In FY 78, computers and related technology will encompass about

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logic Program. The DOD spent about \$128 million in FY 1970 and expects to spend \$230 on ADP during FY 78. Growth after 1975 occurred as the DOD sought and achieved more effective means of collecting and processing intelligence. In constant dollar terms, DOD ADP intelligence cost growth during the same eight year period has been constrained to near FY 70 levels. See Annex F, Figures 1 through 6.

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3.4

[ ] Since 1970, the Defense intelligence community's data processing resources have been oriented toward improving the timeliness and quality of intelligence information, while sustaining manpower reductions of more than 30%. Expenditure patterns since FY 1975 have been devoted to various modernization efforts including:

- o An improved, global I&W network.
- o Interactive use and sharing of data bases for improved access to critical intelligence information.
- o Improved management and tasking for increasingly complex collection systems.
- o Upgrading imagery exploitation and processing systems within the General Defense Intelligence Program.

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CIA

3.5

☐ Like the DOD, CIA's automatic data processing costs have steadily grown since 1970. ADP, moreover, has consumed an increasing share of the Agency's total expenditures, accounting for an estimated ☐ of its budget in FY 78, compared to ☐ of its expenditures in FY 70. The major trend may, therefore, be characterized as one of progressive but controlled growth. About one-quarter of the Agency's ADP expenditures are support to the Community's imagery exploitation data base maintained at NPIC. NPIC's ADP costs have increased steadily since 1974, as the result of technical collection advancements and the need for an improved data system to cope with increased data flows and time demands in support of imagery exploitation and reporting.

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